The Geology of the Lake District and the Scenery as Influenced by Geological Structure. By J. E. MARR. Cambridge: Cambridge University Press, 1916. Pp. 220, figs. 51, map in pocket.

The English Lake District is well adapted to call forth the interest of the geological student by reason of the variety of its geological structure and the significance of its physical features. As an increasing number of those interested in geology visit it each year, and the need of a special treatise upon its geologic features has come to be felt, the author has prepared a condensed account of the geology of this picturesque area.

The Lake District proper is composed of Lower Paleozoic strata, but its borders are formed of a roughly annular girdle of newer strata, partly of Carboniferous age, but partly belonging to the Permian and Triassic. The Lower Paleozoic rocks were profoundly affected by the great Caledonian orogenic disturbance at the close of the Silurian. Great overthrusts of the Scottish Highland type appear to have developed here also, though the author considers "lag fault" as an alternative hypothesis in the explanation of the observed phenomena.

The last third of the book describes and discusses the critical features of the Pleistocene ice sheet, which, by its erosive and depositional work, has contributed so much to the beauty and interest of this celebrated region.

R. T. C.

Origin of the Iron Ores at Kiruna. By REGINALD A. DALY. Vetenskapliga och praktiska Undersökningar. Lappland. Anordnade af Loussavaara—Kürunavaara Aktiebolag. Geology No. 5. Stockholm, 1915. Pp. 1–30, figs. 4.

Professor Daly, thoroughly familiar with the writings of Geijer, Stutzer, and others, has made a short field study of the Kiruna district, particularly of the nature and origin of the numerous small inclusions of iron ore scattered through the quartz porphyry which forms the hanging wall of the ore bodies. These are commonly held to be xenolithic inclusions derived from an older invisible ore body, but the writer concludes, as a result of his field study, that the ore inclusions represent so many frozen-in units of differentiation modified in part by later resorption. The ore bodies are believed to have formed by the gravitative assemblage of similar units at the base of the quartz porphyry. Geijer has emphasized the view that both the iron ores and quartz porphyry are of extrusive origin. Professor Daly, following Stutzer,